Patent Claims

1. A device for mixing at least two media, having at least one mixing chamber, characterized in that a wall of the at least one mixing chamber has at least one temperature control channel for feeding or removing energy to or from the at least one mixing chamber.

2. The device as claimed in one of the preceding claims, characterized in that energy can be fed to or removed from the at least one mixing chamber electrically through the at least one temperature control channel.

3. The device as claimed in one of the preceding claims, characterized in that energy can be fed to or removed from the at least one mixing chamber convectively by means of a temperature control medium through the at least one temperature control channel.

4. The device as claimed in one of the preceding claims, characterized in that the device has at least one reaction chamber, in particular in channel form, for a chemical reaction between the at least two media.

5. The device as claimed in one of the preceding claims, characterized in that a wall of the at least one reaction chamber is provided with at least one catalyst material or consists of a catalyst material.

6. The device as claimed in one of the preceding claims, characterized in that the at least one mixing chamber is integrated in the at least one reaction chamber.

7. The device as claimed in one of the preceding claims, characterized in that the at least one mixing chamber has a main direction of flow through it and in

particular is designed in channel form.

8. The device as claimed in one of the preceding claims, characterized in that the at least one temperature control channel runs substantially parallel to the main direction of flow of the at least one mixing chamber.

9. The device as claimed in one of the preceding claims, characterized in that the at least one temperature control channel runs substantially transversely with respect to the main direction of flow of the at least one mixing chamber.

10. The device as claimed in one of the preceding claims, characterized in that the at least one mixing chamber is provided with at least one turbulator, which is designed in particular as a transverse web.

11. The device as claimed in one of the preceding claims, characterized by an inlet for each of the at least two media and if appropriate also for the temperature control medium, and an outlet for in each case at least one mixing and/or reaction product and if appropriate for the temperature control medium.

12. The device as claimed in one of the preceding claims, characterized in that the wall of the at least one mixing chamber comprises a plurality of plates and/or sheets bearing against one another, and in that in particular the device for mixing at least two media comprises a plurality of plates and/or sheets bearing against one another, with the at least one temperature control channel, the at least one mixing chamber and if appropriate the at least one reaction chamber being formed by cutouts in the plates or sheets.

13. The device as claimed in one of the preceding

claims, characterized in that the two outermost plates can be connected to one another by means of a holding device.

14. The device as claimed in one of the preceding claims, characterized in that at least one of the plates or sheets is between 0.05 mm and 1.5 mm, in particular between 0.2 mm and 1.5 mm, thick.

15. The device as claimed in one of the preceding claims, characterized in that the cutouts in the plates or sheets are between 1 mm and 10 mm wide, in particular between 2 mm and 10 mm wide.

16. The device as claimed in one of the preceding claims, characterized in that at least one component of the device consists of a metal, in particular titanium or tantalum, of a stainless steel, of an alloy, in particular a nickel alloy, or of a plastic.

17. The device as claimed in one of the preceding claims, characterized in that the device is brazed, in which case a brazing solder in particular contains or consists of nickel, gold, silver and/or copper.

18. The device as claimed in one of the preceding claims, characterized in that the device is welded, in particular diffusion-welded, or adhesively bonded.